

# Ming Dang Center Traffic Analysis

Prepared for Ming Dang Center  
and  
City of San Leandro  
June 2015



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6/26/2015

Peggy Chiang  
Ming Dang Center  
13831 Campus Drive  
Oakland CA  
Via Email

Re: Proposed Ming Dang Center – 2015 Laura Avenue, San Leandro

Dear Ms. Chiang:

In response to your request, PHA Transportation Consultants has conducted a focused traffic study for the proposed Ming Dang Center project to be located at 2015 Laura Avenue, San Leandro. The purpose of the study was to evaluate project trip generation, parking needs, vehicle speeds and the need for a multi-way stop control at the Warden Avenue and Laura Avenue intersection as part of the city review process.

Our analysis indicated the proposed Ming Dang Center could generate 9 round vehicular trips with a total of 18 trips (9 incoming trips before meeting and 9 departing trips after the meeting) during the weekend meetings. The 21 parking spaces on the proposed site would be able to accommodate the proposed center's parking needs. The average vehicular speed on Laura Avenue is 23 mph, 20 mph on Warden Avenue south of Laura Avenue, and 33mph on Warden Avenue north of Laura Avenue. The Warden Avenue and Laura Avenue intersection would not meet the minimum requirement for a multi-way stop control based on its current traffic conditions, including traffic volumes and the collision history.

Below are a brief description of the proposed Ming Dang Center project and a detailed discussion of the traffic analysis:

### **Ming Dang Center Description**

Ming Dang Center is a semi religious organization teaching both religious and ancient Chinese philosophies. It currently operates out of a single-family home site on Campus Drive in the Oakland Hills. The center meets every Saturday evening between 7:00 p.m. and 9:30 p.m., and every other Sunday between 10 a.m. and 1 p.m. for lectures, meditation and prayers. The members are divided into two groups. One group, with approximately 20

members, meets every Saturday. The other group, with approximately 25 members, meets every other Sunday. Attendance at Saturday meetings generally ranged between 10 and 20 members, while attendance at Sunday meetings ranged between 15 and 25 members. The center has no scheduled activities during the week between Mondays and Fridays. The proposed center will be maintained by two live-in staff members/caretakers. Figure 1 shows the current Ming Dang Center site in the Oakland Hills.

### **Description of the Proposed Ming Dang Center Site**

The proposed Ming Dang Center site will be at an existing commercial building at 2015 Laura Avenue, San Leandro. According to the project site plan, the proposed center will have a prayer/meditation area, a classroom, a conference room, a library, offices, a kitchen, and two bathrooms and two bedrooms for the caretakers. The size of the center is 5,890 square feet, which is the same as the currently existing building size. The proposed site will have 21 parking spaces instead of the 13 spaces currently provided on the site. According to San Leandro City staff, the site is currently zoned for as residential single-family, and was originally subdivided for three single-family home lots, but the lots were merged into one lot for commercial use. The site, when occupied, had always been used as a commercial/retail facility.

### **Traffic Analysis**

The City (Board of Zoning Adjustments) requested traffic information and the following was studied: potential site traffic generation, parking needs, traffic speeds near the project site, and whether or not a multi-way stop control should be installed at the Warden Avenue and Laura Avenue intersection. A detailed analysis of the above traffic items are discussed as follows:

#### Site Traffic Generation and Parking Needs

PHA conducted traffic surveys at the center's Oakland site on Saturday evening (5/23/2015), and Sunday morning (6/7/2015) to observe traffic entering and exiting the center site. Surveys were conducted between 6 p.m. and 9:30 p.m. on Saturday and 9 a.m. and 1:30 p.m. on Sunday. Survey results indicated on Saturday evening there were 18 members attended the meeting. Eight vehicles were counted entering the site between 6 and 7 p.m. for the meeting. All eight vehicles left the site around 9:15 and 9:30 p.m. There were a total of 8 vehicles parked on the site during the meeting. This represented a vehicle occupancy ratio at 2.25 persons per vehicle.

For Sunday, 12 members attended the meeting, and consultants counted four vehicles entering the site between 9 a.m. and 10 a.m. before the meeting. All four vehicles left the site shortly after 1 p.m. This represented a vehicle occupancy ratio at 3 persons per vehicle.

Assuming the future center meetings would be fully attended, i.e. 20 members for Saturdays and 25 for Sundays and assuming the vehicle occupancy ratios at 2.25 and 3.0 respectively, the center could generate 18 vehicle trips (9 incoming trips before the meeting and 9 outgoing trips after the meeting) and would need 9 on-site parking spaces.

During holidays such as Chinese Lunar New Year and Mid-Autumn Moon festival, when meetings are attended with approximately 45 members, the center could generate up to 40







Figure 1 Current Ming Dang Site in Oakland-Courtesy of Google Earth



Figure 2 Proposed Ming Dang site (San Leandro) – Courtesy of Google Earth

vehicle trips (20 inbound and 20 outbound), and would need 20 parking spaces based on a 2.25 observed vehicle occupancy ratio. Table 1 summarizes the traffic survey results at the Oakland Hills site and the estimated trip generations and parking needs assuming full attendance at the San Leandro site.

The proposed site is currently zoned as residential single-family, and it was originally subdivided as 3 single-family home lots, but the lots were merged and was used as a 5,890 square feet commercial retail facility from 1955. As such, PHA compared the potential trip

generations for these previous uses and the proposed Ming Dang Center.

As shown in Table 2, retail use of the site would generate most trips on both weekdays and weekends. On the other hand, the site would generate the least trips as a single family home in general; the proposed Ming Dang Center would generate comparable trips as with the 3 single-family homes over the weekend. However, Ming Dang Center would generate no weekday trips.

#### Traffic Volumes and Speeds

In response to the traffic speed, consultants conducted traffic volume and speed surveys near the proposed Ming Dang Center site on Laura Avenue and Warden Avenue on weekdays and weekend near the end of May. Survey results indicated that Laura Avenue currently carries about 500 vehicle trips daily with an average traffic speed of about 23 mph. Warden Avenue currently carries between 3,000 and 3,300 vehicle trips daily with an average speed about 20 mph south of Laura Avenue and about 33 mph north of Laura Avenue. There are no posted speed limit signs in the area, however, as residential streets, the “Prima Facie” speed limit is 25 mph in accordance with the California Vehicle Code (CVC). Table 3 summarizes daily traffic volumes and speeds on Laura Avenue and Warden Avenue.

**Table 1 Ming Dang Center Trip Generation Survey and Parking Need Analysis**

Ming Dang Center Traffic Study

	Observed Vehicle Trips			Meeting Attendants	Vehicle Occupancy	Parked Car On-site Counted
	In (Arrive before meeting)	Out (Depart After Meeting)	Total Trips			
<b>Scheduled Meetings</b>						
<b>Average attendance - observed</b>						
Saturday evening (7-9:30 pm -5/27/15)	8	8	16	18	2.25	8
Sunday morning (10 am-1 pm -6/7/15)	4	4	8	12	3.00	4
<b>Maximum Attendance</b>	Estimated					
Saturday evening (7-9:30 pm)	9	9	18	20	2.25	9
Sunday morning (10 am-1 pm)	9	9	18	25	3.00	9
<b>Holiday Attendance-estimated</b>	Estimated					
Lunar New Year/Mid-Autumn Moon Festival	20	20	40	45	2.25	20
Lunar New Year/Mid-Autumn Moon Festival	15	15	30	45	3.00	15
PHA conducted traffic survey on Saturday evening (5/23/2015) and Sunday morning (6/7/2015) at current Ming Dang Center site in Oakland.						

**Table 2 Trip Generation Comparison- Proposed Ming Dang Site**

Ming Dang Center Traffic Study

		Saturday Trips			Sunday Trips			Weekday Daily Trips			Weekday AM Peak Hour Trips			Weekday PM Peak Hour Trips		
Current Zoning and Previous Uses	Unit	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
Single Family Home (ITE 210)	1	5	5	10	5	4	9	5	5	10	0	1	1	1	0	1
Single Family Home (ITE 210)	3	15	15	30	15	12	27	15	15	30	1	2	3	2	1	3
Specialty Retail (ITE 826)	6 ksf	126	126	252	61	61	122	133	133	266	20	21	41	7	9	16
<b>Ming Dang Center</b>	Person															
Weekday	2	0	0	0	0	0	0	2	2	4	0	0	0	0	0	0
Saturday-evening (average)	15	7	7	14	0	0	0	0	0	0	0	0	0	0	0	0
Saturday-evening (max.)	20	9	9	18	0	0	0	0	0	0	0	0	0	0	0	0
Sunday-morning (average)	20	0	0	0	8	8	16	0	0	0	0	0	0	0	0	0
Sunday-morning (max.)	25	0	0	0	10	10	20	0	0	0	0	0	0	0	0	0
Lunar New Year (max.)	45	0	0	0	20	20	40	0	0	0	0	0	0	0	0	0
														-	-	-

Above trips estimates are calculated based on rate from ITE (9<sup>th</sup> Edition) and site specific surveys at Oakland Ming Dang Center Site.

ITE Trip Rates:

Single family: daily 9.52 /unit, am peak 0.75 (35% in, 75% out), pm peak 1.0,( 63% in 37% out),

Saturday 10.10/unit (50% in, 50% out), Sunday 8.76/unit (50% in 50% out)

Specialty retail: 44.32/ksf, am peak 6.84 (48% in 52% out), pm peak 2.71 (44% in 56% out)

Saturday 42.04/ksf (50% in, 50% out). Sunday 20.43 /ksf (50% in, 50% out)

Ming Dang Rates:

Based on surveys conducted on a Saturday and Sunday when meetings are held.

Saturday evening: 16 trips (50% in, 50% out). Vehicle occupancy rate 2.25

Sunday morning: 10 trips (50% in, 50% out). Vehicle occupancy rate 3.00



<b>Table 3 Traffic Volume and Speed Survey</b> Ming Dang Center Traffic Study				
	Weekdays		Weekends	
Streets	Daily Volumes	Average Speeds	Daily Volumes	Average Speeds
Laura Avenue (east of Warden)	498	23.5 mph	472	23.2 mph
Warden Ave. (north of Laura)	2,280	34.1 mph	2,290	32.6 mph
Warden Ave. (south of Laura)	3,398	19.7 mph	3,151	20.5 mph
PHA conducted traffic and speed survey at the end of May 2015.				

### Multi-way Stop Control Evaluation

Finally, PHA evaluated the need for a multi-way stop control for the Warden Avenue and Laura Avenue intersection using the standard requirements established by the City of San Leandro. The basic requirements for multi-way stop signs are primarily based on intersection traffic volumes and collision history. Specifically, the minimum requirements are:

- a. Total hourly volume from all approaches exceeds 300 for any 8 hours for an average day.*
- b. For residential streets, hourly volume is reduced to 60%.*
- c. Total hourly volume from both minor street approaches exceeds 100 for the same 8 hours.*
- d. Total minor street approach volume for the same 8 hours must at least 33% of the total major street approach volume.*
- e. A total of five (5) reported traffic accidents that can be corrected with the installation of the multi-way stop control signs.*

Based on traffic volumes collected from Laura Avenue and Warden Avenue as discussed above, the intersection currently does not meet the stated minimum volume requirements. San Leandro City staff indicated that there are no reported traffic accidents at the intersection over the past 12-month period. As such, Table 4 and 5 summarizes the multi-way stop control evaluation for weekdays and weekends.

**Table 4 Multi-way Stop Control Warrant Analysis – Weekday**

Ming Dang Center Traffic Study

<b>Warrant 1: Minimum Volume Warrant requirements:</b>	a. Total hourly volume from all approaches exceeds 300 for any 8 hours for an average day. b. For residential streets, hourly volume is reduced to 60%. c. Total hourly volume both minor street approaches exceeds 100 for the same 8 hours. d. Total minor street approach for the same 8 hours must at least 33% of the total major street approach volume.								
Highest 8 hours of an average day	10-11am	2-3pm	3-4pm	4-5pm	5-6pm	6-7pm	7-8pm	8-9pm	Conditions Satisfied?
Total of all approaches VPH – 300 min.	164	189	184	196	255	221	206	166	NO
For residential streets, (60% VPH)- 180 min.	164	189	184	196	255	221	206	166	NO
Total of minor approaches VPH - 100 min.	13	20	9	10	15	10	19	12	NO
Minor St. % of major street volume 33% min.	7.9%	10.5%	4.9%	5.1%	5.9	4.7	9.2	7.2	NO
Warrant Satisfied?									<b>NO</b>
<b>Warrant 2: Accident Experience:</b>	a. Five reported collisions for the past 12 months that can be corrected by all-way stop sign control								
	Jan-Feb	Mar-APR	May-Jun	Jul-Aug	Sep-Oct	Nov-Dec			
Warrant Satisfied?	0	0	0	0	0	0			<b>NO</b>
PHA conducted traffic count at the study location at the end of May 2105 Collision statistics are provided by San Leandro traffic engineering staff.									

**Table 5 Multi-way Stop Control Warrant Analysis – Weekend (Sunday)**

Ming Dang Center Traffic Study

<b>Warrant 1: Minimum Volume Warrant requirements:</b>	a. Total hourly volume from all approaches exceeds 300 for any 8 hours for an average day. b. For residential streets, hourly volume is reduced to 60%. c. Total hourly volume both minor street approaches exceeds 100 for the same 8 hours. d. Total minor street approach for the same 8 hours must at least 33% of the total major street approach volume.								
Highest 8 hours of an average day	10-11am	11-12pm	12-1pm	1-2pm	2-3pm	4-5pm	5-6pm	6-7pm	Conditions Satisfied?
Total of all approaches VPH – 300 min.	154	157	176	159	172	187	178	187	NO
For residential streets, (60% VPH)- 180 min.	154	157	176	159	172	187	178	187	NO
Total of minor approaches VPH - 100 min.	17	17	11	14	18	10	16	15	NO
Minor St. % of major street volume 33% min.	11.0%	10.8%	6.3%	8.8%	10.5%	5.3%	9.0%	8.0%	NO
Warrant Satisfied?									<b>NO</b>
<b>Warrant 2: Accident Experience:</b>	a. Five reported collisions for the past 12 months that can be corrected by all-way stop sign control								
	Jan-Feb	Mar-APR	May-Jun	Jul-Aug	Sep-Oct	Nov-Dec			
Warrant Satisfied?	0	0	0	0	0	0			<b>NO</b>
PHA conducted traffic count at the study location at the end of May 2105. Collision data are provided by San Leandro traffic engineering staff.									

## **Summary of Study Findings and Recommendation**

In summary, based on the results of the above analyses, the proposed Ming Dang Center would not generate traffic on weekdays. However, it could generate 18 trips when meetings are held on Saturdays and Sunday with full attendance and may need 9 parking spaces.

During holidays such as the Chinese New Year and Mid-Autumn Moon festival when attendance would have approximately 45 members attend together, the center could generate 40 trips (20 inbound and 20 outbound based on a 2.25 vehicle occupancy ratio) and would need 20 parking spaces. The 21 parking spaces on the proposed site would be able to accommodate the estimated parking needs.

Warden Avenue currently carries about 3,000 vehicle trips daily with an average speed about 20 mph south of Laura Avenue, but above 33 mph north of Laura Avenue. Citizens may file an application of the neighborhood traffic calming program (NTCP) to the Engineering & Transportation Department of the City for further studies of a street traffic calming project. Laura Avenue currently carries about 500 daily vehicle trips with an average vehicle speed of 23 mph, which is in compliance with the speed limits for the residential street.

Based on the evaluation of current traffic volumes and accident experience, the intersection of Warden Avenue and Laura Avenue would not meet the minimum requirement for a multi-way stop control consideration.

Please feel free to contact me if you have any questions about the above analyses.

Sincerely,



Pang Ho, AICP  
Principal

## **Technical Appendixes**

**Traffic counts**  
**Speed Surveys**

# PHA Transportation Consultants 510-848-9233

Description 1: San Leandro  
Description 2: Laura Ave East of Warden Ave  
Description 3: 15-09-430

Site: 2  
Date: 5/28/2015  
Thursday

## 24 Hour Speed Combined Channels

mph	Total	0 - < 15	15 - < 20	20 - < 25	25 - < 30	30 - < 35	35 - < 40	40 - < 45	45 - < 50	50 - < 55	55 - < 60	60 - < 65	65 - < 70	70 - < 200
11:00 AM	20	4	2	7	7	0	0	0	0	0	0	0	0	0
12:00 PM	31	7	8	8	4	1	2	1	0	0	0	0	0	0
1:00 PM	29	7	8	3	2	4	3	2	0	0	0	0	0	0
2:00 PM	37	9	6	6	6	4	4	2	0	0	0	0	0	0
3:00 PM	23	3	8	4	5	1	2	0	0	0	0	0	0	0
4:00 PM	26	4	5	8	5	3	1	0	0	0	0	0	0	0
5:00 PM	41	3	8	9	10	6	4	0	1	0	0	0	0	0
6:00 PM	33	6	2	9	7	4	5	0	0	0	0	0	0	0
7:00 PM	37	7	12	11	4	2	1	0	0	0	0	0	0	0
8:00 PM	36	6	6	10	6	3	1	4	0	0	0	0	0	0
9:00 PM	18	0	0	8	4	1	3	2	0	0	0	0	0	0
10:00 PM	23	1	6	4	8	1	3	0	0	0	0	0	0	0
11:00 PM	5	1	1	0	3	0	0	0	0	0	0	0	0	0
5/29/2015														
12:00 AM	4	0	0	1	3	0	0	0	0	0	0	0	0	0
1:00 AM	3	1	0	1	0	0	1	0	0	0	0	0	0	0
2:00 AM	4	0	1	2	1	0	0	0	0	0	0	0	0	0
3:00 AM	1	0	0	1	0	0	0	0	0	0	0	0	0	0
4:00 AM	7	3	2	1	1	0	0	0	0	0	0	0	0	0
5:00 AM	9	1	3	3	2	0	0	0	0	0	0	0	0	0
6:00 AM	22	3	9	8	2	0	0	0	0	0	0	0	0	0
7:00 AM	26	5	6	9	5	0	0	1	0	0	0	0	0	0
8:00 AM	28	4	4	10	4	4	2	0	0	0	0	0	0	0
9:00 AM	22	1	8	10	3	0	0	0	0	0	0	0	0	0
10:00 AM	27	1	6	15	4	0	0	0	0	1	0	0	0	0
Total	512	77	111	148	96	34	32	12	1	1	0	0	0	0
%		15.0	21.7	28.9	18.8	6.6	6.3	2.3	0.2	0.2	0.0	0.0	0.0	0.0

Percentile Speeds (mph)	<u>10 %</u> 13.4	<u>15 %</u> 15.0	<u>50 %</u> 22.5	<u>85 %</u> 30.3	<u>90 %</u> 33.4
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10 mph Pace Speed	18.4 - 28.4	Average	22.9 mph
Number in Pace	285 (55.7 %)	Minimum	5.1 mph
		Maximum	54.3 mph

Speeds Exceeded	<u>45 mph</u>	<u>55 mph</u>	<u>65 mph</u>
	0.4 %	0.0 %	0.0 %
Count	2	0	0



# PHA Transportation Consultants 510-848-9233

Description 1: San Leandro  
Description 2: Laura Ave East of Warden Ave  
Description 3: 15-09-430

Site:  
Date:

2  
5/29/2015  
Friday

## 24 Hour Speed Combined Channels

mph	Total	0 - < 15	15 - < 20	20 - < 25	25 - < 30	30 - < 35	35 - < 40	40 - < 45	45 - < 50	50 - < 55	55 - < 60	60 - < 65	65 - < 70	70 - < 200
11:00 AM	20	3	4	5	5	0	3	0	0	0	0	0	0	0
12:00 PM	28	2	8	6	4	3	3	1	1	0	0	0	0	0
1:00 PM	25	4	5	6	2	6	0	2	0	0	0	0	0	0
2:00 PM	27	5	6	6	4	3	3	0	0	0	0	0	0	0
3:00 PM	36	3	5	12	9	3	1	2	0	1	0	0	0	0
4:00 PM	41	7	9	11	8	5	0	0	1	0	0	0	0	0
5:00 PM	34	5	4	11	6	3	2	3	0	0	0	0	0	0
6:00 PM	37	5	9	8	9	3	1	2	0	0	0	0	0	0
7:00 PM	35	3	11	10	5	5	1	0	0	0	0	0	0	0
8:00 PM	33	3	7	15	5	1	2	0	0	0	0	0	0	0
9:00 PM	28	2	5	11	6	1	2	0	0	1	0	0	0	0
10:00 PM	24	1	3	5	8	4	1	2	0	0	0	0	0	0
11:00 PM	11	0	3	4	4	0	0	0	0	0	0	0	0	0
5/30/2015														
12:00 AM	8	0	0	1	2	3	1	0	1	0	0	0	0	0
1:00 AM	7	1	1	1	1	0	2	1	0	0	0	0	0	0
2:00 AM	7	1	5	1	0	0	0	0	0	0	0	0	0	0
3:00 AM	7	1	2	1	1	0	2	0	0	0	0	0	0	0
4:00 AM	10	2	4	2	2	0	0	0	0	0	0	0	0	0
5:00 AM	2	1	0	1	0	0	0	0	0	0	0	0	0	0
6:00 AM	2	0	0	1	1	0	0	0	0	0	0	0	0	0
7:00 AM	14	1	2	8	2	1	0	0	0	0	0	0	0	0
8:00 AM	16	1	6	4	2	3	0	0	0	0	0	0	0	0
9:00 AM	26	3	7	11	4	1	0	0	0	0	0	0	0	0
10:00 AM	20	4	5	6	3	2	0	0	0	0	0	0	0	0
Total	498	58	111	147	93	47	24	13	3	2	0	0	0	0
%		11.6	22.3	29.5	18.7	9.4	4.8	2.6	0.6	0.4	0.0	0.0	0.0	0.0

Percentile Speeds (mph)	<u>10 %</u>	<u>15 %</u>	<u>50 %</u>	<u>85 %</u>	<u>90 %</u>
	14.6	15.7	22.9	31.8	33.4

10 mph Pace Speed	15.7 - 25.7	Average	23.5 mph
Number in Pace	272 (54.6 %)	Minimum	6.2 mph
		Maximum	54.3 mph

Speeds Exceeded	<u>45 mph</u>	<u>55 mph</u>	<u>65 mph</u>
	1.0 %	0.0 %	0.0 %
Count	5	0	0

# PHA Transportation Consultants 510-848-9233

Description 1: San Leandro  
Description 2: Laura Ave East of Warden Ave  
Description 3: 15-09-430

Site: 2  
Date: 5/30/2015  
Saturday

## 24 Hour Speed Combined Channels

mph	Total	0 - < 15	15 - < 20	20 - < 25	25 - < 30	30 - < 35	35 - < 40	40 - < 45	45 - < 50	50 - < 55	55 - < 60	60 - < 65	65 - < 70	70 - < 200
11:00 AM	24	3	7	8	6	0	0	0	0	0	0	0	0	0
12:00 PM	33	9	3	11	8	0	1	0	1	0	0	0	0	0
1:00 PM	38	9	14	9	2	3	1	0	0	0	0	0	0	0
2:00 PM	30	6	5	10	6	2	1	0	0	0	0	0	0	0
3:00 PM	34	5	5	5	10	8	1	0	0	0	0	0	0	0
4:00 PM	26	3	6	9	6	0	0	1	1	0	0	0	0	0
5:00 PM	31	6	5	9	7	0	3	0	1	0	0	0	0	0
6:00 PM	33	4	6	7	11	3	1	1	0	0	0	0	0	0
7:00 PM	32	3	7	10	9	1	2	0	0	0	0	0	0	0
8:00 PM	28	2	6	6	7	4	3	0	0	0	0	0	0	0
9:00 PM	28	3	8	6	5	3	3	0	0	0	0	0	0	0
10:00 PM	20	1	3	4	10	1	0	1	0	0	0	0	0	0
11:00 PM	6	0	1	3	1	0	1	0	0	0	0	0	0	0
5/31/2015														
12:00 AM	7	2	2	1	1	0	1	0	0	0	0	0	0	0
1:00 AM	4	0	2	0	2	0	0	0	0	0	0	0	0	0
2:00 AM	9	0	1	3	1	1	1	1	1	0	0	0	0	0
3:00 AM	3	0	0	0	2	0	0	1	0	0	0	0	0	0
4:00 AM	1	0	0	1	0	0	0	0	0	0	0	0	0	0
5:00 AM	6	0	2	2	1	1	0	0	0	0	0	0	0	0
6:00 AM	8	2	1	4	0	1	0	0	0	0	0	0	0	0
7:00 AM	8	1	3	2	1	1	0	0	0	0	0	0	0	0
8:00 AM	15	1	4	3	6	1	0	0	0	0	0	0	0	0
9:00 AM	24	6	4	8	5	1	0	0	0	0	0	0	0	0
10:00 AM	24	4	6	9	3	1	0	1	0	0	0	0	0	0
Total	472	70	101	130	110	32	19	6	4	0	0	0	0	0
%		14.8	21.4	27.5	23.3	6.8	4.0	1.3	0.8	0.0	0.0	0.0	0.0	0.0

Percentile Speeds (mph)	<u>10 %</u>	<u>15 %</u>	<u>50 %</u>	<u>85 %</u>	<u>90 %</u>
	13.7	15.0	22.5	29.0	31.0

10 mph Pace Speed	16.7 - 26.7	Average	22.7 mph
Number in Pace	270 (57.2 %)	Minimum	6.2 mph
		Maximum	48.3 mph

Speeds Exceeded	<u>45 mph</u>	<u>55 mph</u>	<u>65 mph</u>
	0.8 %	0.0 %	0.0 %
Count	4	0	0

# PHA Transportation Consultants 510-848-9233

Description 1: San Leandro  
Description 2: Laura Ave East of Warden Ave  
Description 3: 15-09-430

Site: 2  
Date: 5/31/2015  
Sunday

## 24 Hour Speed Combined Channels

mph	Total	0 - < 15	15 - < 20	20 - < 25	25 - < 30	30 - < 35	35 - < 40	40 - < 45	45 - < 50	50 - < 55	55 - < 60	60 - < 65	65 - < 70	70 - < 200
11:00 AM	28	8	1	11	6	1	1	0	0	0	0	0	0	0
12:00 PM	31	5	5	7	5	4	2	3	0	0	0	0	0	0
1:00 PM	28	5	9	5	3	2	1	1	1	0	1	0	0	0
2:00 PM	36	4	10	12	4	3	2	1	0	0	0	0	0	0
3:00 PM	21	1	2	7	5	1	2	2	1	0	0	0	0	0
4:00 PM	29	3	6	7	8	3	1	1	0	0	0	0	0	0
5:00 PM	32	10	6	9	5	2	0	0	0	0	0	0	0	0
6:00 PM	39	3	8	12	8	4	3	0	1	0	0	0	0	0
7:00 PM	21	3	2	6	7	1	2	0	0	0	0	0	0	0
8:00 PM	27	1	7	5	9	2	2	1	0	0	0	0	0	0
9:00 PM	26	1	5	7	8	3	2	0	0	0	0	0	0	0
10:00 PM	11	0	4	3	3	1	0	0	0	0	0	0	0	0
11:00 PM	6	1	2	3	0	0	0	0	0	0	0	0	0	0
6/1/2015														
12:00 AM	3	0	1	1	1	0	0	0	0	0	0	0	0	0
1:00 AM	5	0	1	2	1	1	0	0	0	0	0	0	0	0
2:00 AM	4	0	1	1	0	0	1	0	1	0	0	0	0	0
3:00 AM	1	0	0	1	0	0	0	0	0	0	0	0	0	0
4:00 AM	3	0	1	1	1	0	0	0	0	0	0	0	0	0
5:00 AM	7	2	3	2	0	0	0	0	0	0	0	0	0	0
6:00 AM	18	0	5	7	4	1	1	0	0	0	0	0	0	0
7:00 AM	23	2	5	11	2	3	0	0	0	0	0	0	0	0
8:00 AM	27	3	5	8	7	2	1	1	0	0	0	0	0	0
9:00 AM	24	3	5	8	8	0	0	0	0	0	0	0	0	0
10:00 AM	22	6	7	5	1	1	0	1	1	0	0	0	0	0
Total	472	61	101	141	96	35	21	11	5	0	1	0	0	0
%		12.9	21.4	29.9	20.3	7.4	4.4	2.3	1.1	0.0	0.2	0.0	0.0	0.0

Percentile Speeds (mph)	<u>10 %</u>	<u>15 %</u>	<u>50 %</u>	<u>85 %</u>	<u>90 %</u>
	13.6	15.9	22.5	30.3	33.4

10 mph Pace Speed	17.9 - 27.9	Average	23.2 mph
Number in Pace	265 (56.1 %)	Minimum	5.9 mph
		Maximum	56.7 mph

Speeds Exceeded	<u>45 mph</u>	<u>55 mph</u>	<u>65 mph</u>
	1.3 %	0.2 %	0.0 %
Count	6	1	0

# PHA Transportation Consultants 510-848-9233

Description 1: San Leandro  
Description 2: Warden Ave North of Laura Ave  
Description 3: 15-09-430

Site: 3  
Date: 5/28/2015  
Thursday

## 24 Hour Speed Combined Channels

mph	Total	0 - < 15	15 - < 20	20 - < 25	25 - < 30	30 - < 35	35 - < 40	40 - < 45	45 - < 50	50 - < 55	55 - < 60	60 - < 65	65 - < 70	70 - < 200
11:00 AM	100	1	10	16	27	12	7	11	4	3	3	4	2	0
12:00 PM	105	0	1	34	30	10	4	5	2	6	5	2	4	2
1:00 PM	122	1	3	20	39	17	7	9	6	5	7	1	4	3
2:00 PM	123	2	5	8	36	17	11	14	6	13	5	3	1	2
3:00 PM	160	0	7	24	56	29	8	10	3	8	5	3	4	3
4:00 PM	14	1	1	3	2	1	2	3	1	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5/29/2015														
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	39	0	2	7	13	2	1	4	4	4	1	0	0	1
Total	663	5	29	112	203	88	40	56	26	39	26	13	15	11
%		0.8	4.4	16.9	30.6	13.3	6.0	8.4	3.9	5.9	3.9	2.0	2.3	1.7

Percentile Speeds (mph)	<u>10 %</u> 22.1	<u>15 %</u> 23.7	<u>50 %</u> 29.6	<u>85 %</u> 50.1	<u>90 %</u> 54.3
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10 mph Pace Speed	22.9 - 32.9	Average	34.5 mph
Number in Pace	340 (51.3 %)	Minimum	8.5 mph
		Maximum	81.5 mph

Speeds Exceeded	<u>45 mph</u>	<u>55 mph</u>	<u>65 mph</u>
	19.6 %	9.8 %	3.9 %
Count	130	65	26

# PHA Transportation Consultants 510-848-9233

Description 1: San Leandro  
Description 2: Warden Ave North of Laura Ave  
Description 3: 15-09-430

Site:  
Date:

3  
5/29/2015  
Friday

## 24 Hour Speed Combined Channels

mph	Total	0 - < 15	15 - < 20	20 - < 25	25 - < 30	30 - < 35	35 - < 40	40 - < 45	45 - < 50	50 - < 55	55 - < 60	60 - < 65	65 - < 70	70 - < 200
11:00 AM	113	4	5	21	27	19	6	11	6	4	6	0	1	3
12:00 PM	119	4	4	15	30	21	12	13	4	7	3	0	3	3
1:00 PM	107	0	4	12	19	21	14	13	4	6	6	4	2	2
2:00 PM	149	0	3	16	38	24	18	8	9	11	7	3	9	3
3:00 PM	132	1	5	21	34	27	15	8	2	8	5	1	1	4
4:00 PM	165	0	2	18	63	26	19	9	3	13	7	1	2	2
5:00 PM	184	0	2	33	51	31	18	13	10	14	7	2	2	1
6:00 PM	160	4	2	40	38	20	18	11	3	8	5	4	5	2
7:00 PM	175	3	14	35	62	18	13	7	5	9	4	0	3	2
8:00 PM	130	2	8	32	52	22	8	1	0	4	1	0	0	0
9:00 PM	116	0	6	24	49	31	4	0	0	1	0	1	0	0
10:00 PM	100	0	7	17	49	20	7	0	0	0	0	0	0	0
11:00 PM	56	0	0	22	20	10	3	1	0	0	0	0	0	0
5/30/2015														
12:00 AM	39	0	2	8	16	10	2	0	0	1	0	0	0	0
1:00 AM	23	0	2	5	10	4	2	0	0	0	0	0	0	0
2:00 AM	19	0	1	1	9	5	1	1	1	0	0	0	0	0
3:00 AM	10	0	0	1	7	2	0	0	0	0	0	0	0	0
4:00 AM	13	1	0	5	4	3	0	0	0	0	0	0	0	0
5:00 AM	29	1	0	4	13	7	4	0	0	0	0	0	0	0
6:00 AM	39	0	1	9	12	11	5	1	0	0	0	0	0	0
7:00 AM	79	2	3	15	26	23	7	0	1	1	0	0	1	0
8:00 AM	88	0	0	13	38	18	10	1	2	3	2	1	0	0
9:00 AM	116	0	5	15	23	27	11	9	8	10	5	0	2	1
10:00 AM	129	0	6	18	37	17	11	15	6	8	5	3	0	3
Total	2290	22	82	400	727	417	208	122	64	108	63	20	31	26
%		1.0	3.6	17.5	31.7	18.2	9.1	5.3	2.8	4.7	2.8	0.9	1.4	1.1

Percentile Speeds (mph)	<u>10 %</u>	<u>15 %</u>	<u>50 %</u>	<u>85 %</u>	<u>90 %</u>
	22.1	23.3	29.6	44.9	50.1

10 mph Pace Speed	22.1 - 32.1	Average	32.6 mph
Number in Pace	1281 (55.9 %)	Minimum	5.8 mph
		Maximum	86.9 mph

Speeds Exceeded	<u>45 mph</u>	<u>55 mph</u>	<u>65 mph</u>
	13.6 %	6.1 %	2.5 %
Count	312	140	57

# PHA Transportation Consultants 510-848-9233

Description 1: San Leandro  
Description 2: Warden Ave North of Laura Ave  
Description 3: 15-09-430

Site:  
Date:

3  
5/30/2015  
Saturday

## 24 Hour Speed Combined Channels

mph	Total	0 - < 15	15 - < 20	20 - < 25	25 - < 30	30 - < 35	35 - < 40	40 - < 45	45 - < 50	50 - < 55	55 - < 60	60 - < 65	65 - < 70	70 - < 200
11:00 AM	135	0	12	25	33	19	8	9	8	8	8	2	3	0
12:00 PM	123	3	7	16	30	22	15	11	4	3	5	2	2	3
1:00 PM	137	0	6	20	28	20	14	17	9	11	8	1	1	2
2:00 PM	123	0	0	13	38	22	13	15	10	7	2	2	0	1
3:00 PM	130	0	1	17	37	27	8	8	7	11	6	1	3	4
4:00 PM	153	4	0	28	46	19	15	16	9	9	4	2	0	1
5:00 PM	148	3	7	25	43	19	14	8	7	7	8	4	1	2
6:00 PM	146	0	2	23	46	21	17	8	7	9	5	2	1	5
7:00 PM	123	4	4	16	41	18	6	8	4	10	5	0	5	2
8:00 PM	104	1	2	21	40	24	10	2	1	0	3	0	0	0
9:00 PM	98	1	7	22	28	23	9	2	1	2	1	1	1	0
10:00 PM	101	0	2	28	39	18	5	3	1	2	3	0	0	0
11:00 PM	78	2	7	15	40	11	1	1	0	1	0	0	0	0
5/31/2015														
12:00 AM	47	0	2	10	23	6	4	1	0	1	0	0	0	0
1:00 AM	30	3	2	10	12	3	0	0	0	0	0	0	0	0
2:00 AM	16	0	0	1	7	5	1	0	1	0	1	0	0	0
3:00 AM	9	0	1	0	3	3	1	1	0	0	0	0	0	0
4:00 AM	17	0	0	2	9	4	2	0	0	0	0	0	0	0
5:00 AM	22	0	2	1	8	11	0	0	0	0	0	0	0	0
6:00 AM	33	0	0	5	11	13	4	0	0	0	0	0	0	0
7:00 AM	48	0	2	8	20	13	1	1	0	1	1	1	0	0
8:00 AM	76	1	5	14	25	13	7	2	1	2	2	3	1	0
9:00 AM	87	1	7	12	23	16	4	11	2	6	1	2	2	0
10:00 AM	125	1	4	25	29	14	9	8	9	11	12	0	1	2
Total	2109	24	82	357	659	364	168	132	81	101	75	23	21	22
%		1.1	3.9	16.9	31.2	17.3	8.0	6.3	3.8	4.8	3.6	1.1	1.0	1.0

Percentile Speeds (mph)	<u>10 %</u>	<u>15 %</u>	<u>50 %</u>	<u>85 %</u>	<u>90 %</u>
	22.1	23.7	29.6	46.5	50.1

10 mph Pace Speed	22.9 - 32.9	Average	33.0 mph
Number in Pace	1154 (54.7 %)	Minimum	5.3 mph
		Maximum	93.1 mph

Speeds Exceeded	<u>45 mph</u>	<u>55 mph</u>	<u>65 mph</u>
	15.3 %	6.7 %	2.0 %
Count	323	141	43



# PHA Transportation Consultants 510-848-9233

Description 1: San Leandro  
Description 2: Warden Ave North of Laura Ave  
Description 3: 15-09-430

Site: 3  
Date: 5/31/2015  
Sunday

## 24 Hour Speed Combined Channels

mph	Total	0 - < 15	15 - < 20	20 - < 25	25 - < 30	30 - < 35	35 - < 40	40 - < 45	45 - < 50	50 - < 55	55 - < 60	60 - < 65	65 - < 70	70 - < 200
11:00 AM	117	2	3	20	31	19	8	10	2	8	4	1	6	3
12:00 PM	141	0	2	27	41	16	15	11	9	11	2	2	5	0
1:00 PM	127	0	1	15	40	21	9	10	9	12	2	4	2	2
2:00 PM	131	0	2	15	41	18	10	6	7	13	10	4	3	2
3:00 PM	122	0	6	16	34	18	13	5	9	9	3	4	3	2
4:00 PM	156	3	6	30	43	24	10	11	6	9	4	1	4	5
5:00 PM	139	1	5	21	44	29	10	7	2	8	4	3	2	3
6:00 PM	147	1	10	29	42	20	8	10	4	7	6	3	4	3
7:00 PM	117	0	6	21	46	10	6	7	4	8	4	1	2	2
8:00 PM	110	0	4	21	43	27	6	4	0	4	1	0	0	0
9:00 PM	105	0	2	22	38	29	8	2	0	2	0	0	1	1
10:00 PM	76	1	1	19	27	18	6	2	1	0	1	0	0	0
11:00 PM	39	0	2	6	22	8	0	0	0	1	0	0	0	0
6/1/2015														
12:00 AM	29	0	1	5	12	9	1	1	0	0	0	0	0	0
1:00 AM	13	0	0	2	4	3	3	0	0	0	1	0	0	0
2:00 AM	7	0	0	2	1	3	0	0	0	0	1	0	0	0
3:00 AM	5	0	0	2	1	0	0	0	0	2	0	0	0	0
4:00 AM	21	0	2	6	2	2	4	2	1	1	0	0	0	1
5:00 AM	50	0	0	9	14	9	7	3	0	4	2	0	1	1
6:00 AM	94	0	1	13	26	18	13	5	4	3	6	2	2	1
7:00 AM	164	2	4	25	46	30	16	11	6	15	4	0	4	1
8:00 AM	175	0	6	27	54	25	12	12	11	12	8	5	1	2
9:00 AM	112	0	5	19	28	12	9	12	8	7	7	0	3	2
10:00 AM	89	0	2	4	23	16	13	6	7	7	6	2	3	0
Total	2286	10	71	376	703	384	187	137	90	143	76	32	46	31
%		0.4	3.1	16.4	30.8	16.8	8.2	6.0	3.9	6.3	3.3	1.4	2.0	1.4

Percentile Speeds (mph)	<u>10 %</u>	<u>15 %</u>	<u>50 %</u>	<u>85 %</u>	<u>90 %</u>
	22.9	24.1	29.6	48.3	52.1

10 mph Pace Speed	22.9 - 32.9	Average	34.1 mph
Number in Pace	1199 (52.4 %)	Minimum	6.7 mph
		Maximum	86.9 mph

Speeds Exceeded	<u>45 mph</u>	<u>55 mph</u>	<u>65 mph</u>
	18.3 %	8.1 %	3.4 %
Count	418	185	77

# PHA Transportation Consultants 510-848-9233

Description 1: San Leandro  
Description 2: Warden Ave South of Laura Ave  
Description 3: 15-09-430

Site:  
Date:

1  
5/28/2015  
Thursday

## 24 Hour Speed Combined Channels

mph		0 -	15 -	20 -	25 -	30 -	35 -	40 -	45 -	50 -	55 -	60 -	65 -	70 -
Total		< 15	< 20	< 25	< 30	< 35	< 40	< 45	< 50	< 55	< 60	< 65	< 70	< 200
11:00 AM	141	48	54	27	6	5	0	0	0	0	0	0	0	1
12:00 PM	168	51	57	39	11	2	1	0	1	1	1	0	1	3
1:00 PM	176	53	54	37	23	5	0	0	0	1	0	0	0	3
2:00 PM	193	55	55	57	17	5	0	0	0	0	0	0	2	2
3:00 PM	224	46	64	71	34	8	0	0	0	0	0	1	0	0
4:00 PM	216	44	76	53	33	5	2	1	0	0	0	1	1	0
5:00 PM	266	66	73	73	39	9	1	0	1	0	0	0	0	4
6:00 PM	239	67	65	72	26	3	1	0	1	0	0	0	0	4
7:00 PM	197	51	68	53	16	3	0	1	0	0	2	1	0	2
8:00 PM	171	42	56	49	20	1	1	0	0	1	0	0	0	1
9:00 PM	129	25	51	39	9	2	0	0	0	1	1	0	0	1
10:00 PM	118	21	38	36	15	1	1	0	0	1	0	1	0	4
11:00 PM	64	7	20	23	12	0	0	0	0	0	0	0	0	2
5/29/2015														
12:00 AM	38	2	13	19	4	0	0	0	0	0	0	0	0	0
1:00 AM	27	3	6	14	4	0	0	0	0	0	0	0	0	0
2:00 AM	28	4	10	13	1	0	0	0	0	0	0	0	0	0
3:00 AM	19	2	7	4	3	1	0	0	0	0	0	0	1	1
4:00 AM	46	15	13	14	0	1	0	0	1	0	0	1	0	1
5:00 AM	70	16	30	16	4	0	0	0	0	0	0	1	0	3
6:00 AM	137	64	36	24	4	2	1	0	1	1	1	1	0	2
7:00 AM	222	93	67	38	9	4	0	1	1	0	2	2	1	4
8:00 AM	208	70	66	48	15	2	1	1	0	1	0	0	1	3
9:00 AM	125	40	42	29	8	4	0	0	0	2	0	0	0	0
10:00 AM	176	56	55	48	11	0	1	0	0	2	2	0	0	1
Total	3398	941	1076	896	324	63	10	4	6	11	9	9	7	42
%		27.7	31.7	26.4	9.5	1.9	0.3	0.1	0.2	0.3	0.3	0.3	0.2	1.2

Percentile Speeds (mph)	<u>10 %</u>	<u>15 %</u>	<u>50 %</u>	<u>85 %</u>	<u>90 %</u>
	10.9	12.5	18.6	24.9	26.8

10 mph Pace Speed	13.0 - 23.0	Average	19.7 mph
Number in Pace	2043 (60.1 %)	Minimum	5.0 mph
		Maximum	98.3 mph

Speeds Exceeded	<u>45 mph</u>	<u>55 mph</u>	<u>65 mph</u>
	2.5 %	2.0 %	1.4 %
Count	84	67	49

# PHA Transportation Consultants 510-848-9233

Description 1: San Leandro  
Description 2: Warden Ave South of Laura Ave  
Description 3: 15-09-430

Site:  
Date:

1  
5/29/2015  
Friday

## 24 Hour Speed Combined Channels

mph	Total	0 - < 15	15 - < 20	20 - < 25	25 - < 30	30 - < 35	35 - < 40	40 - < 45	45 - < 50	50 - < 55	55 - < 60	60 - < 65	65 - < 70	70 - < 200
11:00 AM	160	40	46	54	14	1	1	0	0	0	0	0	1	3
12:00 PM	168	54	48	45	15	3	1	0	1	0	0	0	0	1
1:00 PM	158	52	51	34	10	10	0	0	0	0	0	0	1	0
2:00 PM	213	57	65	57	24	4	0	0	1	1	1	0	1	2
3:00 PM	187	45	53	54	27	5	1	0	0	0	1	1	0	0
4:00 PM	239	64	79	64	26	1	1	1	0	0	1	0	1	1
5:00 PM	242	47	81	78	26	8	0	0	0	0	0	1	0	1
6:00 PM	215	51	61	59	29	4	2	0	1	0	0	0	0	8
7:00 PM	236	64	58	77	22	4	2	1	0	2	1	1	1	3
8:00 PM	177	38	60	55	17	4	0	1	0	0	0	0	0	2
9:00 PM	166	36	50	57	14	0	1	0	2	0	2	1	0	3
10:00 PM	139	26	50	45	14	1	0	0	0	0	0	1	0	2
11:00 PM	76	12	26	30	7	0	0	0	0	0	0	0	0	1
5/30/2015														
12:00 AM	55	6	18	20	6	3	0	0	0	0	0	0	1	1
1:00 AM	34	5	9	16	3	0	0	0	0	0	0	0	1	0
2:00 AM	35	7	6	14	4	2	0	0	0	0	0	0	1	1
3:00 AM	23	6	7	7	1	0	0	0	0	0	0	1	1	0
4:00 AM	35	14	12	4	3	0	0	0	0	0	1	0	0	1
5:00 AM	40	8	17	11	3	0	0	0	0	1	0	0	0	0
6:00 AM	51	14	22	12	2	0	0	0	0	0	0	0	1	0
7:00 AM	112	37	34	26	6	2	1	0	1	1	0	0	1	3
8:00 AM	124	28	51	34	4	2	0	0	0	1	1	0	1	2
9:00 AM	158	42	51	27	20	5	0	0	2	0	3	2	1	5
10:00 AM	166	46	53	51	9	4	0	0	1	0	0	0	0	2
Total	3209	799	1008	931	306	63	10	3	9	6	11	8	13	42
%		24.9	31.4	29.0	9.5	2.0	0.3	0.1	0.3	0.2	0.3	0.2	0.4	1.3

Percentile Speeds (mph)	<u>10 %</u>	<u>15 %</u>	<u>50 %</u>	<u>85 %</u>	<u>90 %</u>
	12.0	13.2	19.0	24.9	26.8

10 mph Pace Speed	13.0 - 23.0	Average	20.3 mph
Number in Pace	2016 (62.8 %)	Minimum	5.0 mph
		Maximum	98.3 mph

Speeds Exceeded	<u>45 mph</u>	<u>55 mph</u>	<u>65 mph</u>
	2.8 %	2.3 %	1.7 %
Count	89	74	55

# PHA Transportation Consultants 510-848-9233

Description 1: San Leandro  
Description 2: Warden Ave South of Laura Ave  
Description 3: 15-09-430

Site: 1  
Date: 5/30/2015  
Saturday

## 24 Hour Speed Combined Channels

mph	Total	0 - < 15	15 - < 20	20 - < 25	25 - < 30	30 - < 35	35 - < 40	40 - < 45	45 - < 50	50 - < 55	55 - < 60	60 - < 65	65 - < 70	70 - < 200
11:00 AM	176	62	47	46	13	3	1	2	0	0	0	2	0	0
12:00 PM	178	62	49	35	18	5	2	1	0	0	2	0	0	4
1:00 PM	196	64	62	41	19	3	1	0	0	0	2	0	0	4
2:00 PM	188	60	56	42	22	4	1	0	0	0	0	1	1	1
3:00 PM	189	38	71	48	27	1	0	0	0	1	0	0	0	3
4:00 PM	221	59	71	60	18	6	1	0	0	0	1	0	3	2
5:00 PM	213	52	76	64	10	6	2	0	0	0	0	1	0	2
6:00 PM	209	40	63	66	27	5	0	0	1	0	1	1	0	5
7:00 PM	182	51	62	49	11	2	0	0	0	0	2	2	1	2
8:00 PM	179	53	54	46	17	2	0	0	0	1	0	0	3	3
9:00 PM	154	36	55	36	19	2	2	0	1	1	0	0	0	2
10:00 PM	145	29	54	43	16	2	1	0	0	0	0	0	0	0
11:00 PM	107	19	33	41	11	1	0	0	0	0	0	0	0	2
5/31/2015														
12:00 AM	66	11	25	24	4	0	0	0	0	0	0	0	0	2
1:00 AM	48	4	24	15	5	0	0	0	0	0	0	0	0	0
2:00 AM	32	3	11	13	3	1	0	0	0	0	0	1	0	0
3:00 AM	15	0	10	3	1	0	0	0	0	0	0	0	0	1
4:00 AM	22	1	10	7	3	1	0	0	0	0	0	0	0	0
5:00 AM	32	7	12	9	1	0	0	0	0	0	1	1	0	1
6:00 AM	52	17	17	13	3	0	1	0	0	0	0	1	0	0
7:00 AM	73	15	29	18	6	0	0	1	0	0	0	0	1	3
8:00 AM	120	34	32	41	7	0	0	0	0	2	1	1	0	2
9:00 AM	141	43	54	19	10	0	1	1	1	0	2	2	2	6
10:00 AM	167	65	49	34	14	0	0	0	1	1	0	0	0	3
Total	3105	825	1026	813	285	44	13	5	4	6	12	13	11	48
%		26.6	33.0	26.2	9.2	1.4	0.4	0.2	0.1	0.2	0.4	0.4	0.4	1.5

Percentile Speeds (mph)	<u>10 %</u>	<u>15 %</u>	<u>50 %</u>	<u>85 %</u>	<u>90 %</u>
	11.6	12.7	18.4	24.9	26.4

10 mph Pace Speed	13.6 - 23.6	Average	20.1 mph
Number in Pace	1953 (62.9 %)	Minimum	5.1 mph
		Maximum	98.3 mph

Speeds Exceeded	<u>45 mph</u>	<u>55 mph</u>	<u>65 mph</u>
	3.0 %	2.7 %	1.9 %
Count	94	84	59

# PHA Transportation Consultants 510-848-9233

Description 1: San Leandro  
Description 2: Warden Ave South of Laura Ave  
Description 3: 15-09-430

Site:  
Date:

1  
5/31/2015  
Sunday

## 24 Hour Speed Combined Channels

mph	Total	0 - < 15	15 - < 20	20 - < 25	25 - < 30	30 - < 35	35 - < 40	40 - < 45	45 - < 50	50 - < 55	55 - < 60	60 - < 65	65 - < 70	70 - < 200
11:00 AM	184	58	61	39	17	1	0	0	0	1	0	1	1	5
12:00 PM	193	50	74	39	21	4	0	0	0	1	0	0	0	4
1:00 PM	175	49	52	36	28	4	0	0	0	1	1	0	1	3
2:00 PM	186	56	51	47	23	3	0	1	0	0	2	0	0	3
3:00 PM	162	34	56	45	16	5	0	1	0	0	1	1	1	2
4:00 PM	197	47	62	62	18	3	1	0	0	0	0	1	1	2
5:00 PM	190	50	65	47	18	5	0	0	2	1	1	0	0	1
6:00 PM	196	42	53	69	17	3	0	0	0	2	1	1	1	7
7:00 PM	162	32	49	51	16	1	2	2	0	1	1	1	1	5
8:00 PM	161	41	58	42	10	3	0	0	0	0	0	1	2	4
9:00 PM	142	23	44	43	23	5	1	1	1	0	0	0	1	0
10:00 PM	98	23	29	32	10	2	0	0	0	0	0	1	0	1
11:00 PM	47	5	15	19	5	1	0	0	0	0	0	0	1	1
6/1/2015														
12:00 AM	35	3	8	12	8	2	0	0	0	0	0	0	1	1
1:00 AM	25	3	10	5	3	3	1	0	0	0	0	0	0	0
2:00 AM	13	4	4	2	2	1	0	0	0	0	0	0	0	0
3:00 AM	11	2	3	3	1	0	0	0	0	0	0	0	1	1
4:00 AM	32	6	12	9	2	0	0	0	0	0	0	0	1	2
5:00 AM	80	25	32	17	2	0	0	0	0	0	0	1	0	3
6:00 AM	141	54	48	27	4	2	0	0	0	0	0	0	2	4
7:00 AM	217	87	63	35	13	5	2	0	1	0	2	2	3	4
8:00 AM	227	56	71	63	25	4	0	0	0	0	2	2	0	4
9:00 AM	148	43	48	40	11	3	0	1	0	0	0	0	0	2
10:00 AM	129	33	48	30	16	0	0	0	0	0	0	0	0	2
Total	3151	826	1016	814	309	60	7	6	4	7	11	12	18	61
%		26.2	32.2	25.8	9.8	1.9	0.2	0.2	0.1	0.2	0.3	0.4	0.6	1.9

Percentile Speeds (mph)	<u>10 %</u>	<u>15 %</u>	<u>50 %</u>	<u>85 %</u>	<u>90 %</u>
	11.4	13.0	18.6	25.3	26.8

10 mph Pace Speed	13.6 - 23.6	Average	20.5 mph
Number in Pace	1948 (61.8 %)	Minimum	5.0 mph
		Maximum	98.3 mph

Speeds Exceeded	<u>45 mph</u>	<u>55 mph</u>	<u>65 mph</u>
	3.6 %	3.2 %	2.5 %
Count	113	102	79